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**FAX TRANSMITTAL SHEET**

May 9, 2006

TO: Examiner Jamal A. Fox  
GAU 2664  
U.S. Serial No. 10/045,584

Company: U.S. Patent and Trademark Office

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FROM: Steven P. Wigmore 5551 Our Ref. #: 08286.105010

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**Notes/Comments:****Documents Submitted Via Facsimile:**

Applicant: Stephen A. Thomas et al.

Serial No.: 10/045,584

Filed: October 26, 2001

For: Method and System for Processing Upstream Packets of an Optical Network

Papers Faxed: /SPW/ PTOL-85 Issue fee form in Duplicate (2-pgs.); Comments on Examiner's Reasons For Allowance (5-pgs.)



Patents

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: )  
)  
**Stephen A. Thomas et al.** ) Art Unit: **2664**  
)  
Serial No. **10/045,584** ) Examiner: **Jamal A. Fox**  
)  
Filed: **October 26, 2001** ) Confirmation No.: **9377**  
)  
For: **Method and System for Processing** )  
**Upstream Packets of an Optical Network** )

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**COMMENTS ON STATEMENT OF REASONS  
FOR ALLOWANCE FILED PURSUANT TO 37 CFR § 1.104(e) and MPEP § 1302.14**

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Commissioner for Patents  
Mail Stop Issue Fee  
Alexandria, VA 22313-1450

May 9, 2006

Sir:

Pursuant to 37 C.F.R. § 1.104(e), the Applicants are submitting the following comments which are requested to be made part of the Official file history for this patent application:

**Comments on Statement of Reasons for Allowance**

The Applicants respectfully submit that the Examiner's Reasons for Allowance that were attached to the Notice of Allowance mailed on February 9, 2006 DO NOT PROVIDE information that is equivalent to the information contained in the application file in which the Examiner's Office actions and the Applicants' replies make evident the Examiner's reasons for allowing the claims.

The Applicants repeat the Examiner's reasons for allowance as follows for discussion purposes:

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I hereby certify that this correspondence is being facsimile transmitted to: Commissioner for Patents, Mail Stop Issue Fee, P. O. Box 1450, Alexandria, VA 22313-1450, GAU 2664, Attn: Examiner Jamal A. Fox, Facsimile No. (571) 273-2885 on May 9, 2006.

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**/SPW/**

Steven P. Wigmore, Reg. No. 40,447

Serial No. 10/045,584

2. The following is an examiner's statement of reasons for allowance: Regarding claims 1-29 the prior art of record fails to teach of processing upstream packets of an optical network comprising the step of for a group of subscribers in the optical network holding the upstream packets at the subscriber if it is determined that the one or more upstream packets cannot be processed. The closest reference, Hoebeke (U.S. Patent No. 6,424,656), teaches of processing packet of an optical network, comprising the steps of: for a group of subscribers in the optical network, receiving a request from a subscriber to transmit one or more upstream packets; determining whether the one or more upstream packets can be processed; holding the upstream packets at the subscriber if it is determined that the one or more upstream packets cannot be processed; sending a message to the subscriber indicating whether the one or more upstream packets can be processed; and receiving the upstream packets if it is determined that the one or more upstream packet can be processed, but fails to teach of processing upstream packets of an optical network comprising the step of for a group of subscribers in the optical network, holding the upstream packets at the subscriber if it is determined that the one or more upstream packets cannot be processed.

The Examiner's reasons for allowance listed above do not clearly address the combination of elements presented in independent Claims 1, 10, and 22. That is, the Examiner's reasons for allowance track some of the elements in independent Claim 13, however, the Examiner's reasons do not address several different elements recited in the remaining three independent claims, namely Claims 1, 10, and 22.

As one example, the Examiner's reasons for allowance describe how the prior art of record fails to teach holding upstream packets at a subscriber if it is determined that one or more upstream packets cannot be processed. However, this claim element is only present in

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independent Claim 13 and not in any of the remaining independent claims, namely independent Claims 1, 10, and 22.

Further, the Examiner's reasons for allowance describe a "group of subscribers." This element is only present in independent Claim 13. Meanwhile, the Applicants point out that each of the remaining three allowed independent claims recite either a group or plurality of -- subscriber optical interfaces-- which are not the same as "subscribers." See Claims 1, 10, and 22 listed below.

To assist the public's understanding of the unique combination of elements set forth in each of the four allowed independent claims, the Applicants provide a copy of these independent claims below:

1. A method for processing upstream packets of an optical network, comprising the steps of:
  - for a group of subscriber optical interfaces in the optical network,
    - receiving status messages from the subscriber optical interfaces;
    - calculating reservation information for upstream transmission from the status messages;
    - calculating a duration of upstream transmission time slots for each subscriber optical interface; and
    - transmitting the calculated the duration of the upstream transmission time slot to each subscriber optical interface; and
    - receiving upstream transmissions from each subscriber optical interface during respective calculated upstream transmission time slots.
10. An optical network system comprising:
  - a plurality of subscriber optical interfaces; and
  - an optical tap routing device coupled to the plurality of subscriber optical interfaces, said optical tap routing device further comprising a memory device and central processing unit coupled to said memory device, wherein said central processing unit is programmed to perform the steps of:
    - calculating a length of a time interval for upstream transmission by a subscriber with a token bucket algorithm; and
    - obtaining at least one packet from each subscriber of the plurality of subscriber optical interfaces during the time interval such that collision of packets originating from different subscribers of the plurality of subscribers is substantially reduced.

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13. A method for processing upstream packets of an optical network, comprising the steps of:

- for a group of subscribers in the optical network,
  - receiving a request from a subscriber to transmit one or more upstream packets;
  - determining whether the one or more upstream packets can be processed;
  - holding the upstream packets at the subscriber if it is determined that the one or more upstream packets cannot be processed;
  - sending a message to the subscriber indicating whether the one or more upstream packets can be processed; and
  - receiving the upstream packets if it is determined that the one or more upstream packets can be processed.

22. A method for processing upstream packets of an optical network, comprising the steps of:

- for a group of subscriber optical interfaces in the optical network,
  - receiving status messages from the subscriber optical interfaces;
  - calculating reservation information for upstream transmission from the status messages;
  - calculating a duration of upstream transmission time slots for each subscriber optical interface, wherein the step of calculating the duration of the upstream transmission time slots further comprises calculating the duration with a token bucket emulation algorithm;
  - transmitting the calculated the duration of the upstream transmission time slot to each subscriber optical interface; and
  - receiving upstream transmissions from each subscriber optical interface during respective calculated upstream transmission time slots.

The Applicants are submitting these comments so that if the claims listed above are ever litigated, it will be understood that the independent claims of this application have varying degrees of scope and unique combinations of elements that are not found in the prior art.

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**Conclusion**

In light of the remarks and full listing of the independent claims above, it is clear that the Examiner's Reasons for Allowance that were attached to the Notice of Allowance mailed on February 9, 2006 DO NOT PROVIDE information that is equivalent to the information contained in the application file in which the Examiner's Office actions and the Applicants' replies make evident the Examiner's reasons for allowing the claims.

This paper makes it apparent that each allowed independent claim of the group of four allowed independent claims has a unique combination of elements that is patentable over the prior art of record.

Respectfully submitted,

**/SPW/**

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